to be incorrect. The dogs, three in number, which had acquired the disease in an unknown way, all died in consequence, it was believed, of the loss of their hair. In all three of the animals there was an enormous number of the acari present, dilating the hair-follicles and filling the sebaceous glands, so as completely to destroy their secreting cells. There were also inflammatory changes in the cutis of greater or less extent, arising from the irritation of the acari and the scratching of the dog. The paper is illustrated by a plate showing the alterations in the hair follicles produced by the acarus.

The concluding paper in the volume is by Dr. HORACE DOBELL, and is entitled *A Contribution to the Natural History of Pulmonary Consumption, consisting of an Analysis of One Hundred Male Cases of Hæmoptysis.* This analysis shows the relation in point of time between the first hemorrhage and the first loss of weight to be as follows: First hæmoptysis occurred before first loss of weight in 8 per cent. of the cases. At the same time as first loss of weight in 10 per cent., and after first loss of weight in 82 per cent. The relation which cough bore to hæmoptysis in these cases, as regards priority, will be seen from the following: First cough occurred before first hæmoptysis in 87 per cent. At the same time as first hæmoptysis in 12 per cent. After first hæmoptysis in 2 per cent. Cough preceded first loss of weight in 69 per cent., and was preceded by it in 31 per cent. of the cases. Dr. Dobell, while holding that hemorrhage is not often the cause of lung disease, admits that in some cases it may be so. "I am disposed," he says, "to place it only as one item, and that a very occasional one, in a large and important group, embracing all foreign substances which find their way into the peri-vascular and peri-alveolar tissue of the lungs, and by their irritation there, set up lymphatic (adenoid) and connective tissue cell-proliferation and its consequences." J. H. H.

ART. XXVIII.—*Transactions of the American Ophthalmological Society.* Tenth Annual Meeting, 1874. 8vo. p. 274. New York: Wm. Wood & Co., 1874.

THIS number of the *Transactions* contains more than twice as many pages as the last, and represents an amount of good work most creditable to a comparatively small society, only twenty-six members being present.

The first paper is by Dr. H. D. NOYES, who reports a case in which *astigmatism* seemed to have been *produced by tenotomy of* the internal *recti muscles* for the relief of diplopia due to paresis of the left externus. The left internus was cut three times and the right once. Five years after the first operation a myopic astigmatism of $\frac{1}{48}$ in each eye had increased to $\frac{1}{15}$ in the left eye, and $\frac{1}{36}$ in the right, and two years later there was $\frac{1}{12}$ in the left and $\frac{1}{20}$ in the right. He calls attention to the common association of myopic astigmatism and muscular insufficiency, and suggests the possibility that a certain number of cases of astigmatism may have their origin in defective muscular equilibrium.

Dr. WM. THOMSON reports several *cases of conical cornea* in which vision had been very much improved by correction with cylindrical glasses of high power, and urges the importance of making a careful optical analysis of such cases before proceeding to operative interference.

An interesting point in these cases is that "their histories demonstrate that the optical defects were induced in eyes that were probably emmetropic, by prolonged strain of the eyes in reading with insufficient illumination when the individuals were rendered vulnerable by causes which produced general debility of their systems."

Dr. HASKETT DERBY contributes a paper "*On the Atropia Treatment of Acquired and Progressive Myopia.*" Since Donders, in his classical work on Refraction and Accommodation, stated, in speaking of the pain and fatigue suffered by many myopic persons when using their eyes for near work, that "a species of spasm of the accommodation is not unfrequently associated with this irritable condition, and an even-increased degree of myopia is found, which disappears, however, as the irritability diminishes," the occasional occurrence of such accommodative spasm has been admitted by all ophthalmic surgeons. Dr. Derby shows, by his own statistics and those of other authors, that this complication is much more frequent than is generally supposed, and adopts the view of Dobrowolsky that the symptoms of irritation depend on the cramp of the accommodation, and do not, as Donders supposed, act as its cause. This view naturally suggests the therapeutic use of atropia, which has accordingly been employed by Dobrowolsky, Hösch, and Scheiss.

"To Prof. Scheiss belongs the credit of utilizing the researches of Dobrowolsky for ophthalmic practice. So long, he justly observes, as myopia was considered largely hereditary and entirely incurable, the ophthalmic surgeon contented himself with giving suitable cautions and prescribing, in general terms, a course of dietetics calculated to arrest the progress of the trouble he had no hope of ameliorating. But with the knowledge that the affection commenced in many cases with an accommodation spasm, antedating the organic change, and with the certainty that it was often acquired during school years or in early life by individuals manifesting no hereditary predisposition, born emmetropic and even hypermetropic, to a much greater extent than had ever been imagined, came the idea of probable arrest and possible diminution, and even cure.

"Withdrawing his patients from all use of the eyes on near objects, and arming them with protection glasses, he ordered twice daily the application of a solution of one part of atropia to 120 of water, and kept this up ordinarily for three or four weeks."

Dr. Derby has treated sixty-seven cases in this manner, and from his own experience, as well as from the results obtained by others, draws the following conclusions:—

"That the emmetropic eye, through undue or disadvantageous use, acquires myopia much more frequently than has previously been supposed, and that such acquired myopia is very apt to be progressive, commencing with spasm of accommodation and going on through a state of congestion and irritation to the structural change characteristic of this error of refraction.

"That paralysis of accommodation by means of atropia, persisted in during a period of several weeks, and furthered by rest of the eyes, shaded glasses, and in extremely aggravated cases by local blood-letting, offers a reasonable prospect of preventing the progress of myopia, in some instances of lessening its amount, and in occasional recent and slight cases of removing it altogether.

"That in cases of progressive myopia it is reasonable to expect positive results from an annual course of treatment similar to the above, carried on during those years which experience has shown to be most favourable to the advance of the myopia, thus enabling the patient to tide over a critical period."

A tabular report of the author's cases is appended to the paper. Ten of these cases were of hypermetropic eyes, and in them, at least, we think the accommodative spasm must be considered as an effect rather than a cause of irritation; the effect of overstraining of the ciliary muscle in its constant effort to accommodate the refraction of the eye to its shortened axis. The irritable condition of these eyes and their apparent myopia would probably have been best relieved by persistently wearing the proper convex glasses. We are not sure that a certain number even of the myopes would not have been benefited by the concave glasses that corrected the real, not the apparent, myopia. According to Dobrowolsky, "myopes being, under all circumstances, unable to see distant objects distinctly, are less tempted to relax their accommodation for the far than emmetropes. The ciliary muscle is thus apt to remain in a constant state of tension." If this explanation is correct, why is it not rational, theoretically at least, to remove the cause by giving such patients glasses that will enable them to see distant objects with distinctness? The author justly says that "the whole subject needs and deserves further investigation and the collection of much more numerous statistics." It has been shown that we have in atropia a valuable therapeutic agent in the treatment of myopia, the extent of its applicability can be determined only by just such practical clinical work as Dr. Derby has done.

Dr. H. D. NOYES reports a "*case of extreme myopia*" in which a pair of Steinheil glasses were ordered for reading. These glasses consist of solid cones with the surface at the larger end convex and the opposite one concave. They act on the principle of the Galilean telescope, and are practically small opera glasses.

Dr. JEFFRIES reports a series of experiments on *visual acuteness* with Snellen's, Dyer's, and Green's test-types, hung in the sunlight while he remained in the shade. He states that in this way he can distinguish No. XX. at forty-seven feet. This indicates that he has more than double the average acuteness of vision, that too low a standard has been selected, or that the acuteness of vision varies over a very wide range with different intensities of light. Perhaps all of these factors may exist to a greater or less extent. After all, the test is only an approximation, and taking all ages, conditions; and circumstances into consideration, perhaps it is as close a one as can be reached.

Dr. E. G. LORING describes a "*New Modification of the Ophthalmoscope.*" It differs only in its mechanical construction, from one figured by Knapp in the last number of the *Archives of Ophthalmology and Otology*, and the main features of both may be found in an instrument introduced by Wecker, of Paris, about two years ago. We have been treated to so many ophthalmoscopic novelties in the last year that, it must be confessed, we are growing a little *blasé*, and beginning to fear that of the making of new ophthalmoscopes there is no end.

Dr. W. F. NORRIS reports two *cases of optic neuritis* with "choked disk," one resulting from cerebellar sarcoma, and the other from lead poisoning. The paper is accompanied by five very beautiful chromo-lithographs, representing the microscopical structure of the tumour and sections of both disks.

The author concludes that "the excess of the cerebro-spinal fluid, and the dilatation of the outer sheath of the optic nerves, and consequent increase of sub-vaginal space, would seem to show that, in these cases at least,the choked disk had been produced by the pressure of the subarachnoid fluid at this point."

Dr. CHAS. S. BULL reports on the "*circulation of the optic nerve and retina in diseases of the spinal cord and membranes dependent on caries of the vertebræ.*" Eleven cases were examined. No constant lesion was found, but in all but one case the disks were congested, and the retinal veins enlarged.

A *syphilitic gumma in the ciliary body* is described and figured by Drs. LORING and ENO. The accompanying engraving of a microscopical section of the tumour by Dr. Eno, is a fine specimen of etching, a most enviable accomplishment for a pathologist.

Dr. John Green contributes an article "*on color-tests for ametropia, based upon the chromatic aberration of the eye*," founded on an experiment of Dr. Wollaston recorded by Thomas Young.

"He looks through a prism at a small lucid point, which of course becomes a linear spectrum. But the eye cannot so adapt itself as to make the whole spectrum appear a line; for if the focus be adapted to collect the red rays to a point, the blue will be too much refracted, and expand into a surface; and the reverse will happen if the eye be adapted to the blue rays; so that, in either case, the line will be seen as a triangular space."

Exhibiting this experiment to numerous friends, Dr. Green finds "that the emmetropes and myopes among them all describe the spectrum of the lucid point as triangular, with the apex red; the hypermetropes, on the contrary, see it with the apex violet, or at any rate with the violet end quite narrow. We have thus a direct and delicate test for ametropia, not dependent on the recognition of letters."

"In measuring myopia by this method, I have succeeded best by directing the attention to the red apex of the spectrum: the weakest concave glass, through which the apex appears as a sharp red point, being the measure of the myopia for red rays. Adding to this the correction for the brighest part of the spectrum, viz., the yellow, a correction which I have found to be about $\frac{1}{144}$, we have the measure of the actual myopia in the meridian corresponding to the direction of the refracting edge of the prism. In hypermetropia also, it has seemed to me most satisfactory to take the red end of the spectrum for observation, noting the strongest convex glass, through which the apex appears perfectly sharp."

Dr. Green also suggests that this experiment of Wollaston's affords a striking illustration of the non-achromatism of the eye.

Dr. Wadsworth reports *two cases of intra-ocular sarcoma*, Dr. Thomson, one of *pigmented sarcoma* Dr. Mathewson, one of *melanosis of apparent traumatic origin*, and Dr. Bull *two cases of syphilitic lesion of the eye*.

Dr. Haskett Derby gives a detailed account of a *case of sympathetic ophthalmia* in which the symptoms persisted after enucleation, and were relieved by removal of the extremity of the optic nerve and surrounding tissues. The improvement. however, was not permanent. Two fresh attacks of inflammation occurred a few months afterward.

Dr. Jeffries reports a case in which a *piece of steel in the globe caused sympathetic trouble* in the other eye *thirteen years after the injury* was received. "The metal had lain years in the choroid without affecting the other eye. When the ciliary region became affected, as shown by external redness, then only did the formerly well eye begin to show trouble, which enucleation at once relieved."

Dr. Agnew gives an account of the *trephining of the cornea for the removal of a foreign body deeply imbedded in its substance*.

A *new method of treating blepharospasm* is described by Dr. Mathewson. The treatment was suggested by that employed by Dr. Van Bidder, of New York, in a case of ptosis, and consisted in raising the upper lid by means of a slender band of India rubber, fastened near the edge of the upper lid below, and to the forehead above, with strips of isinglass plaster and collodion. The band was worn without inconvenience for twelve days, when the spasm was found to be entirely overcome.

Dr. Agnew reports a *case of double, extremely minute, and apparently congenital lachrymal fistula*.

Under the head of *new instruments*, Dr. Murdock describes a lid speculum, so constructed that it can be removed very quickly, and without danger of pressure on the ball. The upper arm is movable, and drops at once on the turning of a screw. He uses, in connection with it, a crossed branched selfretaining conjunctival forceps, with a series of ratchet teeth on its under surface, which catch on a horizontal bar attached to the speculum. The two together form an automatic eyeholder, which may be found very useful when operating without an assistant. Dr. M. has also added a cutting edge to the crochet-pointed strabismus hook of Dr. Theobald, with the design of using it at the same time as a hook and a knife.

Dr. HAY describes an instrument for facilitating section of the optic nerve in enucleation of the ball:—

"It is a kind of two-branched blunt hook. The branches are smooth, thin plates, so shaped as to fit the posterior surface of the eyeball. They are somewhat parallel with each other, long enough to pass about three-quarters the way around the posterior half of the eyeball, and separated by an interval of a quarter of an inch to allow the optic nerve to pass between them."

Dr. NOYES gives a description of a retractor of the upper lid:—

"It has been devised after reflecting upon the manner in which the upper lid is lifted, viz., by being, as it were, rotated over the spherical surface of the eyeball. In other words, because, in being elevated, the upper lid retreats under the roof of the orbit, an effectual instrument to perform this movement must follow the lid into the cavity of the orbit. The method by which this new retractor acts is at once apparent. It catches the tarsal margin as a pen is laid in a rack, and carries the whole lid under the orbital roof as far as may be desired."

He also describes a fixing forceps designed to be attached to the lid speculum to enable the operator to dispense with the services of an assistant. Woodcuts of all these instruments are furnished, without which it is almost impossible to give an intelligent description of them.

One case of *herpes zoster ophthalmicus* is reported by Dr. WADSWORTH, six by Dr. JEFFRIES, and six by Dr. MATHEWSON. Two of these cases, one by Dr. Wadsworth and one by Dr. Mathewson, are of special interest, as they afford exceptions to the rule, usually considered invariable, that when the whole side of the nose is affected in this disease the eye does not escape. Dr. Wadsworth suggests a variation in the nerve distribution, and, in support of this theory, quotes a case reported by Prof. Turner, in which the frontal nerve gave origin to a long slender infratrochlear branch which passed below the pulley of the superior oblique muscle, to be distributed along with the infratrochlear branch of the nasociliary nerve." Dr. Mathewson, at the suggestion of Dr. Prout, treated his patients by local galvanization, which was very "successful in relieving pain and apparently in modifying other symptoms."

Dr. ALTHOF contributes a paper entitled "*Canthoplasty*—a Clinical Study." The object of this operation is to relieve the ball from excessive pressure of the lids by enlarging the commissure, and it has often been "tried in various conjunctival affections without having ever been methodically put to a severe test." The author has given it an extensive trial and has arrived at the following conclusions: "In trachoma, diphtheria, and blenorrhœa it may prove the chief agent of treatment. In trachoma, and phlyctenular conjunctivitis, and keratitis, its principal merit lies in shortening the attack, preventing relapses, relieving suffering quickly, and supporting powerfully the efficiency of other remedies. In diseases of the lids requiring operations it greatly improves the chances of the latter. In ulcus serpens and diffuse keratitis it may become a desirable support of the treatment so far in use."

Dr. PROUT reports a case of *Schneller's operation for entropion*. An elliptical portion of the skin of the lid is included by two incisions, but left in place, instead of being removed as in the usual operation. The skin above and below it is then dissected up, and the two free margins brought together by sutures over the circumscribed portion. The covered piece acts the part of a splint in stiffening the lid, and is said, after a time, to lose its epithelium and unite with its covering.

Dr. **Agnew** gives *statistics of one hundred and eighteen recent cases of cataract extraction.* The methods of operating used were those known as Graefe's, Liebreich's, Lebrun's, and the "old flap." Dr. Agnew says: "My opinion has, at times, been much unsettled as to the method which offers the best prospect of useful vision in the greatest number of cases. I have, however, about come to the conclusion that the Graefe operation is the best, provided the middle of the cut is not made far from the junction of the sclerotic and clear cornea." Dr. Knapp is in the habit of making the same modification in the Graefe operation, as stated in the last number of the *Transactions.* "The centre of the flap touches, or nearly touches, the upper transparent margin of the cornea." This agreement of two of our most experienced operators on this much discussed question is worthy of note. The following table gives Dr. Agnew's results:—

Successes	77½	per cent.
Partial successes	10½	" "
Failures	9½	" "
Unknown	2½	" "

In the cases recorded as successes vision ranged from $\frac{20}{20}$ to $\frac{20}{200}$, and in the partial successes from $\frac{1}{12}$ to the ability to count fingers. Anæsthetics were used in the majority of cases.

Dr. J. F. **Noyes** describes a "*new method of operating for strabismus.*" The correction is "effected by shortening of the opposing or elongated muscle, and without disturbing, also, the point of attachment or insertion of the tendon on the ball." And the operation is performed in the following manner:—

> "The patient being fully under the influence of chloroform or ether, the lids secured wide open by a stop speculum, a horizontal incision or slit is made in the conjunctiva directly over the tendon, sufficiently long, through which the tendon is lifted out on a blunt hook. The tendon is then divided quite near to its insertion on the ball, leaving enough end or stump so that the other end of the divided tendon can be carried under it, lapped and secured by sutures. The amount of shortening thus effected must, by actual measurement, equal the deviation to be corrected. If it be found necessary to do this, a portion from the end of the tendon may be cut off before carrying it under and lapping as already described."

We are glad to learn that a Report on the Progress of Ophthalmology, which has been omitted in this and in the proceeding number of the *Transactions,* has been provided for in the next by the appointment of Dr. O. F. Wadsworth, of Boston, to the work.

G. C. H.

Art. XXIX.—*Transactions of the American Otological Society.* Seventh Annual Meeting, 1874. 8vo. pp. 127. Boston: James Campbell, 1875.

The first paper is the "*Report on the Progress of Aural Surgery*" during the year, by Drs. **Burnett** and **Blake**. The names of the gentlemen appointed to this service were sufficient warrant that it would be faithfully and ably done, and this expectation has not been disappointed. As it is itself a summary, it is scarcely possible to condense it fairly, and we must advise those who are interested in the subject to read the report. It will be seen that much interesting and valuable work has been done in aural surgery during the year, though it must